APPENDIX B

Services

In This Appendix

Learn about the Platform SDK services

Learn about the MFC services

Operating system services define what you can do with the operating system. For example, if you want to write an application that allows one machine to talk with another, then you need network services. This book has concentrated heavily on the services provided by two sets of APIs: Platform SDK and MFC. These two APIs allowed us to write applications that not only accessed many of the new features of Windows 2000, but to do it with a minimum effort. However, even though we did cover a very large amount of ground in this book, there are still services you haven't been exposed to either with theory or practical example sections. That's the purpose of this appendix — to provide you with an overview of all of the services that these two APIs can provide.

The Platform SDK services mainly deal with base Windows function calls, especially those that are new to Windows 2000. Many of these services satisfy basic needs and you'll find them in the standard Visual C++ libraries as well. The main reason we used the Platform SDK is so you can see the new Windows 2000 features in action. Visual C++ libraries won't allow you to access most of these new features.

We didn't use the MFC API in many examples, but in many others we did. For the most part, you should have noticed that the MFC examples required fewer lines of code and were a bit easier to write. The reason is simple: MFC provides a wrapper around most Windows base services and allows you to access them using classes. That's why it's so important to know what kinds of services MFC provides; you never know when efficiency in coding will take precedence over efficiency in other areas. MFC is always a good bet for desktop and server applications. About the only time when you really don't want to use it is when the application is going to get transmitted over a network connection.

Platform SDK Services

As previously stated, the Platform SDK Service covers a lot of ground — all of the Windows base services in fact. However, it's fairly easy to figure out the functions that the various SDKs or functional groups within a service provide if you break it down a bit. Table B-1 provides you with an overview of the various Platform SDK Services and how you can use them for your day-to-day programming needs.

Table B-1
Platform SDK Service Listing

SDK or Functional Group	*Service Group*	*Description*
Active Directory Service Interfaces (ADSI)	Networking and Distributed Services	This SDK is a client-side product that allows network directory services access by client applications. It uses COM interfaces.
Automation	Component Object Model and ActiveX Object Services	Using this technology will get your software packages to show their features to other applications and scripting tools. Using COM, it also manipulates exposed objects from one application to another and creates the tools necessary to access and manipulate objects.
Broadcast Architecture	Graphics and Multimedia Services	Broadcast Architecture allows you to add the reception of video and digital data from a wide variety of broadcast sources to your computer. This efficient method of information distribution can monitor digitally, around the clock without a phone line, keeping subscribed to information current.
Collaboration Data Objects (CDO) 1.2.1	Database and Messaging Services	CDO is a scripting interface used in addition to the MAPI. It was designed to make creating applications with messaging functionality easier. It's available through two CDO libraries.

SDK or Functional Group	*Service Group*	*Description*
Collaboration Data Objects (CDO) 2.0	Database and Messaging Services	This object library enables messaging capabilities using Internet standard interfaces such as MIME, NNTP, and SMTP. It is coexistent, but not code-compatible with the CDO 1.2.1 libraries.
Common Internet File System Protocol (CIFS)	Internet, intranet, and Extranet Services	This sharing protocol is used in a broad range of operating systems to request, over a network, file and print services from server systems.
Component Development	Component Object Model and ActiveX Object Services	This set of services defines how specific types of components are created. For example, you'll find all of the information you need to know to create an Active Document component with this set of services. (Remember that most of the differences between component types can be summed up by the interfaces they support.)
Component Library	Internet, intranet, and Extranet Services	Microsoft supplies a few components that are universal across all of the 32-bit versions of Windows. These components can perform a variety of tasks like playing movies (ActiveMovie component). This general grouping includes the services provided by these generic components.
Component Object Model (COM)	Component Object Model and ActiveX Object Services	This system was developed to create binary interactive software components. It specifies the basic binary object standard, defines function interfaces, defines how objects work together, and ensures component and system integrity.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Configuration	Setup and Systems Management Services	Getting Windows configured can be a major part of any application installation sequence. This set of services allows you to configure Windows as needed by your application. In addition, it allows you to check current configuration constraints like system policies. Interestingly enough, this set of services also includes a series of functions for the Task Scheduler.
Controls	User Interface Services	Some controls are even more generic than shell and common controls. They include pushbuttons and combo boxes. This set of services defines what you can do with these common application primitives.
Data Access Objects 3.5	Database and Messaging Services	Allows you to create applications that can access and manipulate both local and remote databases. This includes the databases, tables, and other objects that you'll normally find in a database. In addition, you can use these services to access, modify, and create a database structure.
Debugging and Error Handling	Windows Base Services	This set of services allows your application to gracefully handle those unexpected occurrences that happen with every application. Not only will you find debugging-specific functions, but functions that allow you to provide exception handling, error handling, and event logging.

SDK or Functional Group	*Service Group*	*Description*
DLLs, Processes, and Threads	Windows Base Services	This set of services is used with DLLs, threads, and processes. In fact, this is more of a specification than an actual set of functions that you can call within an application.
Fax Services SDK	Networking and Distributed Services	This TAPI-compliant service is used by network users to send and receive faxes from desktop applications. Its features include sent-fax archiving, fax transmittal, fax routing, and device- and server-configuration management.
Files and input/output (I/O)	Windows Base Services	Applications can create, modify, open and delete files with these functions. They can also be used to get system information.
General Library	Windows Base Services	Consider this the junk box of Windows services. These functions really don't fit anywhere else and include a wide variety of Windows base system services like timers, thunking, handles, and the registry.
Generic Quality of Service (GQOS)	Networking and Distributed Services	GQOS is used by both programmers and administrators. Its data subsets are granted higher priority and guaranteed service when working with a network.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Graphic Device Interface (GDI) Objects	Graphics and Multimedia Services	The GDI is the basis of all drawing within Windows. It makes sense, therefore, that you should have complete access to this core component of the operating system. For the most part you'll find that this set of services deals with graphics primitives such as shapes, brushes (for color), and display-device management.
Hardware	Windows Base Services	Three kinds of services are provided in this group: input/output, power management, and device management. In short, you get all of the functionality required to handle every aspect of hardware operation. (Although not necessarily the functions required to make the hardware do something useful.)
Image Color Management	Graphics and Multimedia Services	This technology helps you achieve color accuracy and consistency on different monitors and printers. This is done automatically and with little internal application overhead.
Indexing Service	Internet, intranet, and Extranet Services	This system service takes content and property information from files using filters that support multilanguage features and understand file formats. This information is then merged into searchable indexes.

SDK or Functional Group	*Service Group*	*Description*
International Features	Windows Base Services	If multilanguage applications are something you create every day, then you need to look at the services provided in this group. You'll find functions that work with various character sets and provide National Language Support (NLS). You'll also find the various locale functions in this group.
Internet Explorer	Internet, intranet, and Extranet Services	This set of services allows you to work with Microsoft's Internet Explorer. Included are standard programming interfaces as well as scripting language support and page-description languages like DHTML.
Internet Information Server (IIS) SDK	Internet, intranet, and Extranet Services	This set of services allows you to work with Microsoft's IIS. The three programmer-specific parts of the SDK include ASP (scripting), ISAPI (executable format), and COM components.
Interprocess Communication (IPC)	Windows Base Services	Data sharing and communication between applications can be facilitated by these API mechanisms. IPC forms can assist with the division of labor among several computers on a network or several particular processes.
Messaging API (MAPI)	Database and Messaging Services	This message architecture provides for multiple application interactions with multiple messaging systems. As an open programming interface, it allows current and future customization at all levels of applications.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Microsoft Active Accessibility	User Interface Services	The architecture and interface of Active Accessibility-support software features that are used to assist users with disabilities. The possibilities are extensive, as is the number of possible application tools available for making computer accessibility efficient.
Microsoft Agent	Internet, intranet, and Extranet Services	Allows the developer to add a new method of user interaction to applications. In essence, these services allow the developer to add small animations to the application, which allows the user to see an active presentation rather than the normal static graphic display. Microsoft calls this type of addition a conversational interface. In addition to animation, these services support a limited amount of speech recognition, which allows the computer to talk with the user and vice versa.
Microsoft Clustering Service	Windows Base Services	Individual computer systems working together as if a single system can be clustered with this system. With clustering, you can continue to provide services if a single computer fails, you can expand capacity, and consolidate administrative tasks by operating as a single system.

SDK or Functional Group	*Service Group*	*Description*
Microsoft Data Access SDK	Database and Messaging Services	Samples, documentation, tools, and programming interface will help you find data-access solutions. This includes using diverse applications, platform services, and tools. Designed as the main source of data-access technologies information and instruction.
Microsoft DirectX 6.0	Graphics and Multimedia Services	This is a set of application programming interfaces you can use to build multimedia applications and computer games. It has real-time and high-performance resources, giving you a writing environment that is standardized and documented.
Microsoft Exchange Chat Server Extensibility SDK	Database and Messaging Services	This SDK allows you to write applications that access the Microsoft Exchange Chat server. You'll also find functions that allow you to access the users and channels. For the most part, you'd use the functions in this SDK to extend native Microsoft Exchange functionality.
Microsoft Exchange Client	Database and Messaging Services	Microsoft Exchange provides a development platform that manages a broad range of information-sharing tasks. Capabilities from different ISVs can be integrated into a single user interface. Custom features can be added to it as extensions.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Microsoft Exchange Server	Database and Messaging Services	This SDK is a workgroup and client-server messaging system. Its development platform enables customized messaging-service and information-sharing applications with an electronic mail system, online forms, scheduling, and workflow tools.
Microsoft Interface Definition Language (MIDL)	Component Object Model and ActiveX Object Services	All COM components rely on interfaces to define how they interact with other components and the application. MIDL is the language used to define these interfaces. For the most part, MIDL is a specialty language used for COM—you won't ever use it to access Windows or use a Windows service.
Microsoft Message Queue (MSMQ) Services	Networking and Distributed Services	MSMQ represents a new way of exchanging information between clients and servers. It allows such advanced application capabilities as disconnected computing. This set of services defines what MSMQ can do.
Microsoft SDK for Java 3.1	Internet, Intranet, and Extranet Services	Java has become one of the primary languages used for Internet development. It allows a developer to create applets that can perform a wide variety of functions. This set of services represents Microsoft's version of the Java language.

SDK or Functional Group	*Service Group*	*Description*
Microsoft SNA Server	Networking and Distributed Services	This is a set of services designed to work with Microsoft's Simple Network Architecture (SNA) Server. You'll find the functions required to create a connection to various kinds of mainframes using Advanced Program to Program Communication (APPC) or 3270 emulation. Once a connection is available, you can use other functions (OLE-DB for AS-400 and VSAM) to access data that resides on the mainframe.
Microsoft Transaction Server (MTS) 2.0 Service Pack 1	Component Object Model and ActiveX Object Services	This transaction processing system is component-based. It can be used with intranet server applications, for building, deployment, and administration.
Multimedia Audio	Graphics and Multimedia Services	The main purpose behind this set of services is to provide sound for multimedia presentations. You'll find yourself working with the Media Control Interface (MCI) to output various sound formats including both wave audio and musical-instrument device interfaces (MIDI) sounds.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Multimedia Input	Graphics and Multimedia Services	This set of services deals mainly with three components (one of which isn't multimedia-oriented): files, timers, and joysticks. The reason that you'll find the joystick services here is that the joystick is normally plugged into the same plug as you use for a MIDI device. Obviously, you have to have some way of saving the multimedia presentations to disk, which is the responsibility of the file services. Finally, the timer services allow you to sequence multimedia events.
Multimedia Reference	Graphics and Multimedia Services	Some services don't really fall into a specific category. Part of the Platform SDK contains a Multimedia Reference that talks about these various services, along with the structures, types, macros, messages, commands, and other programming constructs you'll use to work with Multimedia under Windows.
NetShow Streaming Media Services	Internet, intranet, and Extranet Services	This SDK allows you to retrieve information without downloading it first, by streamlining. For multimedia files it means less wait time and storage needs on the client machine, which, in turn, enables live broadcasts and lengthy presentations.

SDK or Functional Group	*Service Group*	*Description*
NetShow Theater Server Administration	Internet, intranet, and Extranet Services	You can use this SDK when you want to deliver interactive multimedia streaming applications. It uses the ActiveX controls: ClientView, MediaServer, ServerView, TitleView, and TraceView.
Networking	Networking and Distributed Services	This is a repository of various networking technologies, including IP, Remote Access Service (RAS), and Simple Network Management Protocol (SNMP). In sum, every network service that doesn't have its own special niche in the Platform SDK appears as a part of this set of services.
OpenGL	Graphics and Multimedia Services	This software interface uses several processing steps to convert data to pixels, thus transforming two- and three-dimensional objects into a frame buffer.
Performance Monitoring	Windows Base Services	Determining how well your application works or what effect a new piece of hardware has on the system both require some type of performance monitor. That's what this set of services will do for you. They define how you can interact with the built-in performance monitoring functionality that Windows provides. Note that Windows NT provides performance counters that you won't find in Windows 9x, so these counters receive special attention in the Platform SDK documentation.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Remote Procedure Call (RPC)	Networking and Distributed Services	RPC is used for a wide range of networking needs, including the Distributed Component Object Model (DCOM). In short, it provides a protocol that allows a client to request execution of code on a server. This set of services defines how Windows accomplishes this.
Removable Storage Manager (RSM) Programmer's Reference	Windows Base Services	You can use RSM to create an application to effectively use all of the resources on a system. With RSM, multiple applications can share tape or disk drives and local robotic media libraries. They can also manage removable media among a single-server system.
Resources	User Interface Services	Resources, in this case, are small program elements that provide some interactive benefit to the user. They include icons, carets, cursors, and menus. This set of services allows the programmer to interact with application resources of all types.
Routing and Remote Access Services	Networking and Distributed Services	This is a new set of services for Windows 2000 that defines a new set of services for the routing of data using RAS. These services include administration, management, and routing functions.

SDK or Functional Group	*Service Group*	*Description*
Scripting	Internet, intranet, and Extranet Services	Many Microsoft products provide scripting support. In fact, Windows Scripting Host (WSH) provides this support as a general Windows programming tool. A default scripting installation will normally support two scripting languages: JavaScript and VBScript. This set of services supports both scripting languages.
Security	Windows Base Services	All of the security features that we discussed throughout the book are accessed through this set of services. Make sure you spend a lot of time looking at the various security functions that Windows provides so that you can create applications that are less susceptible to cracking.
Setup	Setup and Systems Management Services	This interface gives you a set of functions for your setup application for installation performance operations.
Shell and Common Controls	User Interface Services	If programmers had to create every control you see in Windows, the user interface wouldn't be nearly as robust as it is now. This set of services allows programmers to create and modify common Windows controls like property sheets and progress bars.
Site Server SDK	Internet, intranet, and Extranet Services	This SDK is a Web-site environment. Applications created with it can use any language that supports COM, and can help with the creation of cost-effective Web builds.

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Table B-1 *(continued)*

SDK or Functional Group	*Service Group*	*Description*
Still Image	Graphics and Multimedia Services	This application-programming interface is used to get digital still images.
Structured Query Language (SQL) Server	Database and Messaging Services	SQL is the common language used to access most database management systems (DBMS) today. Even if you don't work with the DBMS directly, you may find yourself working with SQL in order to gain access to the data that it holds.
Synchronization Manager (SyncMgr)	Networking and Distributed Services	SyncMgr supplies an infrastructure that supports mobile computing through the operating system. Most applications can use this integrated model.
Systems Management	Setup and Systems Management Services	This set of services allows you to work with various Windows-management policies and services. It includes functions for group policies, Microsoft Management Console (MMC), Microsoft Systems Management Server (SMS), and Web-based Enterprise Management (WBEM).
Telephony Application Programming Interface (TAPI)	Networking and Distributed Services	TAPI controls a wide variety of telecommunication functions within Windows. Everything from dial-up networking to the way modem connections are created is affected by TAPI. This set of services allows you to directly control the way telephony is handled by Windows.

SDK or Functional Group	*Service Group*	*Description*
User Input	User Interface Services	This set of services defines the various kinds of user input. The two main methods of input are the mouse and keyboard. You'll also find the Accessibility and common dialog functions in this group.
Video for Windows	Graphics and Multimedia Services	Video for Windows was started in 16-bit applications. It's an application-programming interface that allows video data processing.
Wallet SDK	Internet, intranet, and Extranet Services	You can use this SDK to create a secure Web-store site. Third-party payment extensions are possible with this SDK's documentation and code.
Windowing	User Interface Services	Most applications are built using various kinds of windows. Every kind of window that you can create in Windows is defined as part of these services. Common window types include dialogs, message boxes, and standard application windows.
Windows 95/98 Programming	Windows Base Services	Windows 9x provides some special features that aren't found in Windows 2000 (although this is changing). These special functions are found in this group of services. It may surprise you to find that the FAT32 services are located in this group. Since Windows 2000 does provide support for this feature, you'll definitely want to browse this group of services just in case there are other Windows 9x services that Windows 2000 now supports.

MFC Accessible Services

These services are designed to make code writing easier. MFC provides a wrapper around the standard Windows services, making them easier to use. In many cases, MFC automatically performs repetitive or required preprocessing tasks for you. The services that MFC provides are grouped in classes that provide similar functions. Table B-2 lists the classes, the basic group the classes relate to, and a brief description of what functions the classes are used for.

Table B-2
MFC Service Listing

Class	*Class Group*	*Description*
Active Document Classes	OLE Classes	Active documents are displayed in the client window of a Web browser or in an Active container supporting Active documents.
Application and Thread Support Classes	MFC Application Architecture Classes	Multiple threads of execution can be supported within an application by this class.
Array, List, and Map Classes	Array, List, and Map Classes	This group of collection classes is used to handle aggregates of data because they can hold a variety of object and predefined types. There are specialized collection classes you can derive from these, or you can use a template to create them.
Command Routing Classes	MFC Application Architecture Classes	Commands are handled by the application's most appropriate active object with this class that is currently available.
Control Bar Classes	Window, Dialog, and Control Classes	Control bars, hold buttons, dialog templates, and status bars are attached to a frame window. Tool palettes are free-floating control bars.

Class	*Class Group*	*Description*
Control Classes	Window, Dialog, and Control Classes	A number of standard Windows controls are encapsulated in control classes.
Data Access Object (DAO) Classes	File and Database Classes	Working with other classes, the DAO classes grant easy access to DAO databases. They also access databases with ODBC drivers.
Debugging and Exception Classes	Debugging and Exception Classes	These are the support classes for debugging dynamic memory allocation and for passing exception information from the function with the exception to the one that catches it.
Debugging Support Classes	Debugging and Exception Classes	Use these classes to debug problems with dynamic memory allocation.
Dialog Box Classes	Window, Dialog, and Control Classes	Dialog-box functionality is located in the dialog-box classes. Dialog boxes are a special kind of window.
Document Classes	MFC Application Architecture Classes	Your application's data is managed by document class objects. This is the base class for application-specific documents.
Document-template Classes	MFC Application Architecture Classes	When a new document or view is created, the creation of any document, frame, view, or window objects is coordinated by document-template objects.
Drawing and Printing Classes	Drawing and Printing Classes	Graphical output in Windows takes place on a virtual drawing area. This is a device context (DC). Drawing and Printing Classes encapsulate the DCs and Windows drawing tools.

Continued

Table B-2 *(continued)*

Class	*Class Group*	*Description*
Drawing Tool Classes	Drawing and Printing Classes	The drawing tools needed for drawing in Windows are encapsulated in these classes. CgdiObject is the base class.
Exception Classes	Debugging and Exception Classes	These classes are used for exceptions. The framework uses exceptions in its codes for exceptions it supports. From it you can derive your own exception.
File and Database Classes	File and Database Classes	Two sets of database classes, DAO and ODBC, allow for storing information to a disk file or database. They provide similar functionality. Another set of classes, I/O, allows for the manipulation of Active streams, HTML streams, and standard files.
File input/output (I/O) Classes	File and Database Classes	Interfaces to in-memory files, Active streams, and Windows sockets are provided by I/O classes.
Frame Window Classes	MFC Application Architecture Classes	Windows that contain a view window are frame windows. Control bars can be attached to them.
Frame Window Classes (Windows)	Window, Dialog, and Control Classes	Windows that frame all or part of an application are frame windows. Usually they will contain other windows.
Internet and Networking Classes	Internet and Networking Classes	These classes are used to create ISAPI extension DLLs, to manipulate Windows sockets, and to exchange information with other computers, using a Windows socket or ISAPI.
ISAPI Classes	Internet and Networking Classes	These classes are used for interactions with Internet servers.

Class	*Class Group*	*Description*
MFC Application Architecture Classes	MFC Application Architecture Classes	This is the class that supplies functionality to most applications.
OLE Automation Classes	OLE Classes	Use these classes to support applications controlling other applications (automation clients).
OLE Classes	OLE Classes	OLE classes grant your programs an easy way to provide ActiveX power to your users. They work with other application-framework classes, accessing the ActiveX API.
OLE Common Dialog Classes	OLE Classes	These classes give a consistent user interface for OLE functionality. They implement standard OLE dialog boxes to handle common OLE tasks.
OLE Container Classes	OLE Classes	Container applications use these classes to manage collections of objects.
OLE Control Classes	OLE Classes	Use these classes to write OLE controls.
OLE Drag-and-Drop and Data Transfer	OLE Classes	Use these classes to transfer data between applications. It can be transferred through drag and drop, or by using the Clipboard.
OLE Server Classes	OLE Classes	Server applications use these classes. These documents can also be containers supporting linking.
OLE-Related Classes	OLE Classes	ColeObjectFactory, ColeMessageFilter, ColeStreamFile, and CrectTracker are OLE-related classes. You can use them for a variety of uses.

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Table B-2 *(continued)*

Class	*Class Group*	*Description*
Open Database Connectivity (ODBC) Classes	File and Database Classes	With other application-framework classes, these classes offer easy access to databases with ODBC drivers.
Output (Device Context) Classes	Drawing and Printing Classes	Output classes contain different kinds of device contexts. The drawing characteristics of a device like a printer or a display is encapsulated in these DC objects. Any drawing call is made through a DC object. Other classes derived from this base class (CDC) contain device-context functionality.
Ready-to-Use Array Classes	Array, List, and Map Classes	Arrays support very fast random access. These data structures are one-dimensional. They are stored contiguously in memory and can grow and shrink as necessary.
Ready-to-Use List Classes	Array, List, and Map Classes	List elements include a pointer to the next and previous elements. Other than this storage difference, lists are similar to arrays.
Ready-to-Use Map Classes	Array, List, and Map Classes	Key values are related to data values in maps. Often they are auxiliary indices to other data structures.
Root Class: CObject	Root Class: CObject	This is the single base class that all other MFC classes are derived from.
Simple Data Type Classes	Simple Data Type Classes	Character strings, drawing coordinates, and date and time information are found in these classes. They use C++ syntax to provide information through member functions.

Class	*Class Group*	*Description*
Template Classes for Arrays, Lists, and Maps	Array, List, and Map Classes	To create arrays, maps, and lists, use a template class. They're collection classes with parameters that will determine the type of object stored in the aggregates.
View Classes	Window, Dialog, and Control Classes	View classes are child windows. They're the client area of a frame window. Views can accept user input to select or edit data, as well as display data.
View Classes (Architecture)	MFC Application Architecture Classes	Application-specific views of documents' data are derived from this class. Data is displayed and edited or selected in views.
Win32 Internet Classes	Internet and Networking Classes	For Internet programming, MFC wraps WinNet and ActiveX technology in these classes.
Window, Dialog, and Control Classes	Window, Dialog, and Control Classes	The base class for all windows is CWnd. It encapsulates a handle to a Windows window and can be used alone or as a base for new classes.
Windows Sockets Classes	Internet and Networking Classes	Use Windows Sockets classes to communicate between two computers in a network protocol-independent manner. Sockets can be synchronous or asynchronous.

Summary

This appendix has provided you with a lot of information you can use for reference purposes. The services that Windows can provide you as a programmer tend to be so vast that they defy any form of convenient reference. This appendix should be a step in the right direction. You should at least walk away with the knowledge of

where to find out more about what you need to do to write today's applications. Here are some additional conclusions you can draw from the contents of this appendix:

- The Platform SDK is a substitute for many of the libraries provided with Visual C++. The reason you would want to use the Platform SDK instead of the native Visual C++ libraries is to access the new features that Windows 2000 provides.
- For the most part, the Platform SDK stands in for the Windows base services. It allows you to access the various features that the operating system has to offer.
- MFC is essentially a class library that you can use to write your applications faster and with less effort. It acts as a wrapper around many of the Windows base service functions.

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